

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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Application of San Diego Gas & Electric
Company (U 902E) for Approval of SB 350
Transportation Electrification Proposals.

Application 17-01-020
(Filed January 20, 2017)

And Related Matters.

Application 17-01-021
Application 17-01-022

**OPENING BRIEF OF THE GREENLINING INSTITUTE ON THE
PRIORITY REVIEW TRANSPORTATION ELECTRIFICATION
PROPOSALS FROM SAN DIEGO GAS & ELECTRIC, SOUTHERN
CALIFORNIA EDISON, AND PACIFIC GAS AND ELECTRIC**

Joel Espino
Legal Counsel, Environmental Equity
The Greenlining Institute
360 14th Street, 2nd Floor
Oakland, CA 94612
510-898-2065
joele@greenlining.org

Dated: June 16, 2017

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PRIORITY REVIEW TRANSPORTATION ELECTRIFICATION
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CALIFORNIA EDISON, AND PACIFIC GAS AND ELECTRIC**

I. Introduction and Summary of Recommended Modifications

In accordance with Rule 13.11 of the California Public Utilities Commission (“Commission”) Rules of Practice and Procedure (“Rules”), and the April 13, 2017 “Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judges,” The Greenlining Institute (“Greenlining”) submits this opening brief on the priority review proposals filed by the investor owned utilities in A.17-01-020 et al.

On March 6, 2017 Greenlining filed responses to the Senate Bill 350 transportation electrification applications of San Diego Gas and Electric (“SDG&E”), Southern California Edison Company (“SCE”), and Pacific Gas & Electric Company (“PG&E”) (collectively, “Applicants” or “applications”) filed on January 20, 2017.¹ Greenlining participated in the pre-hearing conference on March 16, 2017 and the priority review workshop on May 17, 2017.

The Greenlining Institute appreciates the opportunity to provide comment on the priority review projects. In reviewing the priority review projects (“PRP”), Greenlining has identified some modifications that would strengthen the PRPs to meet the letter and intent of Senate Bill

¹ Response of the Greenlining Institute to Senate Bill 350 Transportation Electrification Application of San Diego Gas & Electric (A. 17-01-020); Response of the Greenlining Institute to Senate Bill 350 Transportation Electrification Application of Southern California Edison Company (A. 17-01-021); Response of the Greenlining Institute to Senate Bill 350 Transportation Electrification Application of Pacific Gas & Electric Company (A. 17-01-022).

350 (De León, 2015) (“SB 350”) with respect to disadvantaged and low- and moderate-income communities.

Summary of recommended modifications:

- \$4M of PG&E’s “Open Request for Proposals for Third-Party EV Innovators” project should be repurposed to develop a tariffed on-bill financing project that would remove the upfront cost barrier for transit agencies to buy zero-emission electric buses (more info in “IV. Other Issues” section below and in Attachment A).
- \$4M of PG&E’s “Open Request for Proposals for Third-Party EV Innovators” project should be repurposed to create an “Electric Vehicles for All” project to provide accessible EV charging solutions to low- and moderate-income communities. (more info in “IV. Other Issues” section).
- See pages 4-7 for more recommended modifications.

II. Statutory Requirements:

1. Will the portfolios accelerate widespread transportation electrification to reduce dependence on petroleum, improve air quality, and reduce greenhouse gas emissions?

Collectively, Applicants’ PRPs encompass light-, medium-, and heavy-duty vehicles. Thus, they address major sources of petroleum use, air pollution, and greenhouse gas emissions (“GHG”). In fact, the California Air Resources Board’s most recent GHG inventory finds that the transportation sector accounts for 39 percent of California’s GHGs, the largest source of emissions in the state.² Moreover, heavy-duty vehicles are significant source of respiratory tract damaging air pollution, responsible for a third of California’s nitrogen oxides (NOx) emissions and more particulate matter (PM) pollution than all the state’s power plants combined.³

² California Air Resources Board, [California Greenhouse Gas Emission Inventory - 2017 Edition](#).

³ Chandler, S., Espino, J., and O’Dea, J., *Delivering Opportunity: How Electric Buses and Trucks Can Create Jobs and Improve Public Health in California*, Union of Concerned Scientists and The Greenlining Institute, Updated May 2017, p. ES-1.

a. Pacific Gas and Electric

Generally, yes. PG&E's PRPs will reduce dependence on petroleum, improve air quality, and reduce greenhouse gas emissions.

b. San Diego Gas & Electric

Generally, yes. SDG&E's PRPs will reduce dependence on petroleum, improve air quality, and reduce greenhouse gas emissions.

c. Southern California Edison

Generally, yes. SCE's PRPs will reduce dependence on petroleum, improve air quality, and reduce greenhouse gas emissions.

2. Will the portfolios increase access to transportation electrification for disadvantaged communities and provide other benefits to disadvantaged, low- and moderate-income communities, including increased employment opportunities?

Greenlining supports the PRPs emphasis on electrifying medium- and heavy-duty vehicles. Low-income communities and communities of color are hit hardest by toxic transportation-related pollution. In fact, “[g]reater exposure to dirty air is tied to race even more than to income: nearly 90 percent of residents in the most polluted regions of California are people of color, although they make up only about 60 percent of the state’s population.”⁴ Greater exposure to transportation pollution in communities of color is tied to centuries of segregation and structural racism in land-use decisions and government policy, which has resulted in low-income communities of color living near busy roads, freeways, ports, and other freight corridors at higher rates than wealthier communities and whites.⁵

Heavy-duty vehicles are the single largest source of nitrogen oxide pollution and “produce more particulate matter pollution than all of California’s power plants combined.”⁶

⁴ Chandler, S., Espino, J., and O’Dea, J., *Delivering Opportunity: How Electric Buses and Trucks Can Create Jobs and Improve Public Health in California*, Union of Concerned Scientists and The Greenlining Institute, Updated May 2017, p. 6.

⁵ *Id.* at 6.

⁶ *Id.* at 7.

Because of disproportionate exposure to nitrogen oxide (“NOx”) and particulate matter pollution, low-income communities of color face a public health crisis. Nitrogen oxides can damage respiratory tracts and short-term exposure “exacerbates existing respiratory conditions; long-term exposure increases the likelihood of developing asthma.”⁷ Particulate matter (“PM”) from diesel exhaust is dangerous to public health and is classified as a carcinogen and toxic air contaminant by the World Health Organization and CARB, respectively.⁸ Short- and long-term exposures to PM negatively impact health and have been associated with premature death, cancers, asthma, and triggering of asthma attacks.⁹

In short, robust and targeted medium- and heavy-duty vehicle electrification projects in low-income communities of color are needed to remedy the environmental injustice these vehicles have caused. California understands the urgent need for *equitable* widespread transportation electrification and, as a result, Senate Bill 350 declares that:

Widespread transportation electrification requires *increased access* for disadvantaged communities, low- and moderate-income communities, and other consumers of zero-emission and near-zero-emission vehicles, and *increased use* of those vehicles in those communities and by other consumers to enhance air quality, lower greenhouse gases emissions, and promote overall benefits to those communities and other consumers (emphasis added).¹⁰

Some of the Applicants’ PRPs address these communities more than others.

- a. Pacific Gas and Electric
 - Medium-/Heavy-Duty Fleet Customer Demonstration: Greenlining recommends that the PRP be modified to include a goal of 50 percent of resources be deployed in CalEnviroScreen 3.0 disadvantaged communities as defined by CalEPA pursuant to SB 535 and that PG&E take steps to the maximum extent possible to meet that goal

⁷ *Id.* at 9.

⁸ *Id.*

⁹ *Id.*

¹⁰ Senate Bill 350 (De León, 2015); California Public Utilities Code Section 32, Section 740.12 (a)(1)(C).

- Electric School Bus TE Renewables Integration Pilot: Greenlining recommends that the PRP be modified to exclusively target the PRP in CalEnviroScreen 3.0 disadvantaged communities as defined by CalEPA pursuant to SB 535 and that PG&E take steps to the maximum extent possible to meet that goal.
- Home EV Charger Information Resource project: Greenlining recommends that the PRP be modified to include a plan of how this PRP will engage and help low- and moderate-income households (e.g., in-language marketing and materials). Moreover, the PRP should include a plan to ensure that a meaningful number of minority-owned businesses/electrical contractors will be listed as service providers.
- Open Request for Proposals (RFP) for TE projects by third parties to encourage broad market innovation and participation: See section IV below for recommended modifications.

Lastly, each PG&E PRP should be modified to require a plan on how low-income workers and workers from disadvantaged communities will be maximized and prioritized for the jobs (and any job training) associated with outreach, design, construction, installation, operations and maintenance, and evaluation of the PRP. Similarly, the PRPs should be modified to require a plan on how procurement of goods and services with diverse-owned businesses will be maximized and prioritized through the PRPs.

b. San Diego Gas & Electric

- Electrify Local Highways Project: Greenlining recommends that the PRP be modified to include a goal of 50 percent of resources deployed in CalEnviroScreen 3.0 disadvantaged communities as defined by CalEPA pursuant to SB 535 and that SDG&E take steps to the maximum extent possible to meet that goal. Moreover, SDG&E's PRP should include a plan and subsidies to ensure that low- and moderate-income drivers who access charging stations under this PRP can experience fuel savings when compared to gas-powered vehicles.
- Fleet Delivery Services Project: Greenlining recommends that the PRP be modified to include a goal of 50 percent of resources deployed in CalEnviroScreen 3.0 disadvantaged

communities as defined by CalEPA pursuant to SB 535 and that SDG&E take steps to the maximum extent possible to meet that goal.

- Green Taxi/Shuttle/Rideshare Project: Greenlining strongly recommends that ratepayer funds *not be used* in connection with transportation network companies (“TNC”) (e.g. Uber and Lyft). Greenlining has concerns regarding racial discrimination with respect to who is benefitting from and has access to the service and has concerns with pay and working conditions of drivers. Greenlining recommends that in lieu of this program, SDG&E should create an “Electric Vehicles for All” project like the one described below in section IV. a. (2).
- Dealership Incentives Project: Greenlining recommends the PRP be modified to include tiered incentive structures to incentivize to prioritize educating and selling EVs to low- and moderate-income drivers.

Lastly, each SDG&E PRP should be modified to require a plan on how low-income workers and workers from disadvantaged communities will be maximized and prioritized for the jobs (and any job training) associated with outreach, design, construction, installation, operations and maintenance, and evaluation of the PRP. Similarly, the PRPs should be modified to require a plan on how procurement of goods and services with diverse-owned businesses will be maximized and prioritized through the PRPs.

c. Southern California Edison

- Rebates to support deployment of EV charging in single-family residences and multi-unit dwellings: Greenlining recommends that the PRP be modified to include a plan of how this PRP will engage and target low- and moderate-income households.
- Rewards to encourage EV ridesharing (to increase EV awareness, especially in disadvantaged communities): Greenlining strongly recommends that ratepayer funds *not be used* in connection with transportation network companies (“TNC”) (e.g. Uber and Lyft). Greenlining has concerns regarding racial discrimination with respect to who is benefitting from and has access to the service and has concerns with pay and working conditions of drivers. Greenlining recommends that in lieu of this program, SCE should create an “Electric Vehicles for All” project like the one described below in section IV. a.

(2) with potential driver rewards for low- and moderate-income drivers who own or lease EVs and organize carpools/vanpools to and from work.

- Urban direct current (DC) fast charging stations: Greenlining recommends that the PRP be modified to include a goal of 50 percent of resources deployed in CalEnviroScreen 3.0 disadvantaged communities as defined by CalEPA pursuant to SB 535 and that SDG&E take steps to the maximum extent possible to meet that goal. Moreover, SCE's PRP should include a plan and subsidies to ensure that low- and moderate-income drivers who access charging stations under this PRP can experience fuel savings when compared to gas-powered vehicles.
- Make-ready infrastructure for electric buses operated by transit agencies, yard tractors, and rubber-tire gantry cranes at port terminals: Greenlining strongly supports these PRPs.

Lastly, each SCE PRP should be modified to require a plan on how low-income workers and workers from disadvantaged communities will be maximized and prioritized for the jobs (and any job training) associated with outreach, design, construction, installation, operations and maintenance, and evaluation of the PRP. Similarly, the PRPs should be modified to require a plan on how procurement of goods and services with diverse-owned businesses will be maximized and prioritized through the PRPs.

3. Will the portfolios enable consumer choice, encourage private investment, avoid stranded costs, and adequately mitigate any unfair competition with nonutility enterprises that might result from the proposed projects/investments?

a. Pacific Gas and Electric

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

4. Are the proposed cost recovery mechanisms for the portfolios appropriate?

a. Pacific Gas and Electric

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

5. Do the portfolios include adequate performance accountability measures for the projects?

a. Pacific Gas and Electric

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Greenlining does not have a specific answer to this question at the moment. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

6. Are the proposed projects in the interest of ratepayers as defined in Public Utilities Code Section 740.8? Do the projects minimize costs and maximize benefits?

a. Pacific Gas and Electric

Generally, yes. PG&E's PRPs are in the interest of ratepayers as defined by section 740.8, minimize costs, and maximize benefits. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Generally, yes. SDG&E's PRPs are in the interest of ratepayers as defined by section 740.8, minimize costs, and maximize benefits. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Generally, yes. SCE's PRPs are in the interest of ratepayers as defined by section 740.8, minimize costs, and maximize benefits. However, we reserve the right to provide a more specific response in reply briefs.

III. Regulatory Criteria:

1. Do the proposed portfolios align with CPUC and utilities' core competencies and capabilities and focus on a variety of transportation sectors?

a. Pacific Gas and Electric

Generally, yes. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Generally, yes. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Generally, yes. However, we reserve the right to provide a more specific response in reply briefs.

2. Do the proposed projects align with local, regional and state policies, including the CPUC's Integrated Resource Plan, the Distributed Energy Resources (DER) Action Plan, the state's Zero-Emissions Vehicle Action Plan, and the Air Resources Board's Scoping Plan and Mobile Source Strategy?

a. Pacific Gas and Electric

Generally, yes. PG&E's PRPs align with local, regional, and state policies. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Generally, yes. SDG&E's PRPs align with local, regional, and state policies. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Generally, yes. SCE's PRPs align with local, regional, and state policies. However, we reserve the right to provide a more specific response in reply briefs.

3. Do the portfolios promote safety?

a. Pacific Gas and Electric

Generally, yes. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Generally, yes. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Generally, yes. However, we reserve the right to provide a more specific response in reply briefs.

4. Are the utilities sufficiently leveraging nonutility funding, partnerships, and the results of previous pilots? If not, how could leveraging be increased?

a. Pacific Gas and Electric

Generally, yes. However, PG&E could better partner with administrators (if not already) of CARB's EV equity pilots (described below). Moreover, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Generally, yes. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Generally, yes. However, SCE could better partner with administrators (if not already) of CARB's EV equity pilots (described below). Moreover, we reserve the right to provide a more specific response in reply briefs.

5. Do the proposed projects meet the timeline and budget limitations: one-year projects with a budget of \$4 million or less for a total of \$20 million for each utility's portfolio?

a. Pacific Gas and Electric

No. PG&E's Open RFP project has a budget of \$8.2 million, which is over the \$4 million limit presented in September 14, 2016 Assigned Commissioner Ruling ("ACR").¹¹ Below in section IV, Greenlining recommends two modifications to this PRP to ensure it complies with the ACR.

b. San Diego Gas & Electric

¹¹ PG&E Transportation Electrification SB 350 Prepared Testimony; Assigned Commissioner's Ruling Regarding the Filing of the Transportation Electrification Applications Pursuant to Senate Bill 350 at 31, R. 13-11-007.

Generally, yes. SDG&E's PRPs meet the timeline and budget limitations. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Generally, yes. SCE's PRPs meet the timeline and budget limitations. However, we reserve the right to provide a more specific response in reply briefs.

6. Do the proposals include reasonable data collection and reporting plans for evaluating programs' success and future research and program development? If not, what are your recommendations for improving data collection and reporting plans?

a. Pacific Gas and Electric

Generally, yes. PG&E's PRPs include reasonable data collection and reporting plans. However, we reserve the right to provide a more specific response in reply briefs.

b. San Diego Gas & Electric

Generally, yes. SDG&E's PRPs include reasonable data collection and reporting plans. However, we reserve the right to provide a more specific response in reply briefs.

c. Southern California Edison

Generally, yes. SCE's PRPs include reasonable data collection and reporting plans. However, we reserve the right to provide a more specific response in reply briefs.

IV. Other Issues

In this section, Greenlining addresses recommended modifications to PG&E's Open Request for Proposals project. Greenlining will not address any other issues regarding SDG&E's and SCE's priority review projects.

a. Pacific Gas and Electric – Open Request for Proposals

PG&E is proposing a \$8.2 million “Open Request for Proposals for Third-Part EV Innovators” project (“Open RFP project”).¹² The goal of the project is to “solicit additional innovative TE project ideas from third parties.”¹³ PG&E states that it will individually consider all proposals on their merits and will convene an “external advisory committee to assist in the development of the RFP evaluation criteria and weighting, and evaluate submitted proposals.”¹⁴

Greenlining has concerns about the mission and principles of this project. Moreover, Greenlining fears that without clear guidance or parameters upfront—and mechanisms in place to ensure a level playing field—the RFP process may result in highly-resourced entities and corporations winning most of the funds for projects that will not necessarily result in meaningful benefits to ratepayers and low-income communities of color who can benefit most from transportation electrification projects. As a result, Greenlining *recommends two modifications* to this project: (1) a tariffed on-bill financing project for electric transit buses; and (2) an “Electric Vehicles for All” project to provide accessible EV charging solutions to low- and moderate-income communities.

(1) a tariffed on-bill financing project for electric transit buses

Electric transit bus manufacturers have recently reached cost parity with diesel transit buses when evaluated on a lifecycle basis. Nonetheless, the upfront cost premium of electric buses can be above 50 percent, creating a barrier for procurement. Because many transit agencies operate in financially constrained conditions, they need a financing solution to accelerate retirement of the dirtiest diesel buses in favor of zero-emission transit. Harnessing a utility tariff can accelerate investment in electric transit buses.

Greenlining has been collaborating with Clean Energy Works (experts in harnessing utility tariffs for distributed energy solutions) and Union of Concerned Scientists to identify tariffed on-bill financing opportunities for the procurement of electric transit buses modeled off “Pay As You Save” (“PAYS”).¹⁵ Clean Energy Works has been leading engagement and

¹² PG&E Transportation Electrification SB 350 Prepared Testimony.

¹³ *Id.* at 2-18.

¹⁴ *Id.* at 2-19.

¹⁵ See Attachment A.

education on this proposal with the Commission, investor-owned utilities, and electric bus manufacturers. Greenlining sees great potential and value in testing this inclusive financing concept within the SB 350 transportation electrification context.

As a result, Greenlining strongly recommends that \$4M of PG&E's \$8.2M Open RFP project should be repurposed to develop a tariffed on-bill financing project that would remove the upfront cost barrier for transit agencies to buy zero-emission electric buses. With Commission approval, PG&E can offer an opt-in tariff that would enable investment and cost recovery for the on-board battery and charging equipment included in electric buses procured by public transit agencies in its service territory. This would remove the upfront cost barrier that remains for transit agencies. To recover costs, PG&E would include on a transit agency's monthly bill a fixed charge capped at a level below the estimated savings relative to the cost of operating a traditional diesel bus.

The objective of this project is to pilot an opt-in tariff to finance the battery of an electric transit bus, to test the potential for such an approach to mitigate the up-front cost barrier, accelerate deployment, and better leverage public/ratepayer funds. This pilot will evaluate the operating costs of electric buses in the field to determine how they compare with anticipated savings and to determine the potential for expanding such a tariff more widely. Attachment A below further describes the proposal and its benefits and Attachment B further explains the tariffed on-bill financing concept.

PG&E's service territory holds great potential for demonstrating this project. The San Joaquin Valley Regional Transit District ("SJVRTD" (operating in PG&E's service territory), which currently operates electric transit buses in its fleet, is intimately familiar with the procurement barriers limiting its ability to accelerate deployment of electric buses. SJVRTD supports this concept and would welcome the availability of this option.¹⁶ Moreover, the San Joaquin Valley Transit Electrification Project, funded by California Air Resources Board, is in PG&E's service territory. Fresno, Stockton, Modesto, and Visalia will all receive electric buses through this electrification project.¹⁷ As a result, many transit agencies within PG&E's territory are developing electric bus operation expertise and likely are looking for opportunities to scale up their electric bus procurement.

¹⁶ See Attachment C for Letter of Support.

¹⁷ California Air Resources Board, California Climate Investments, [*Zero-Emission Truck and Bus Pilot Project, San Joaquin Valley*](#).

Moreover, according to the National Transit Database, there were approximately 1,300 buses in PG&E's service territory in 2015. Assuming a lifetime of 12 years, the minimum stipulated by the Federal Transit Administration (FTA), this means transit agencies in PG&E's territory will procure approximately 110 buses per year. Thus, assuming a \$258,000 cost premium, the market would need approximately \$30 million per year to cover the incremental cost over a diesel bus. If this project were run at full-scale, it could meet that demand.

(2) “Electric Vehicles for All” project to provide accessible EV charging solutions to low- and moderate-income communities.

To ensure low-income communities of color benefit from the transition to plug-in electric vehicles (“PEV”), Greenlining partnered with members of the Charge Ahead California campaign to pass the *Charge Ahead California Initiative* established by Senate Bill 1275 (“SB 1275”).¹⁸ The Charge Ahead legislation sets a goal of one million PEVs on California roads by 2023, aims to create a self-sustaining PEV market, and works to *increase access* to PEVs in disadvantaged, low-income, and moderate-income communities and *increase placement* of PEVs in those communities.¹⁹ Senate Bill 1275 directs the California Air Resources Board (“CARB”) to use Greenhouse Gas Reduction Fund (cap-and-trade) dollars to create equity programs that increase access to clean transportation in low- and moderate-income communities and especially in “disadvantaged” communities identified pursuant to Senate Bill 535 (De León, 2012) that are most impacted by pollution and poverty. Eligibility for these programs depends on the income level of the participant and whether that participant lives in a disadvantaged community pursuant to Senate Bill 535.

Since SB 1275 became law in 2014, CARB has developed the following EV equity programs:²⁰

- Enhanced Fleet Modernization Program Plus-Up (scrap and replace): Currently operating in San Joaquin Air Pollution Control District and South Coast Air Quality Management district. Other air district in the Bay Area, Sacramento, and San Diego areas are in conversations with CARB and expected to launch their own programs.

¹⁸ Note: Throughout this document, “PEV” and “EV” will be used interchangeably as umbrella terms for pure battery electric vehicles and plug-in hybrid electric vehicles;

¹⁹ Senate Bill 1275 (De León), Part 5 of Division of the Health and Safety Code, Chapter 8.5, Section 44258.4 (4)(B).

²⁰ California Air Resources Board, Moving California, [Projects in Action: Light-Duty Vehicle Investments](#).

- EV Financing Assistance for Lower-income Consumers Pilot: Currently the Community Housing Development Corporation in Richmond is administering the only pilot serving disadvantaged communities in six Bay Area counties. CARB is currently soliciting \$6 million worth of proposals to fund local financing assistance projects and to fund a statewide financing assistance program.
- Carsharing and Mobility Options in Disadvantaged Communities: Currently, the City of Los Angeles and the Sacramento Metropolitan Air Quality Management District are operating programs. CARB just closed an \$8M solicitation to expand existing projects and launch more projects throughout the state. The 15 applicants proposed a total of \$21.6 million in projects.²¹ Of those 15 applicants, 9 are in the PG&E service territory totaling about \$11.8 million in proposed projects.
- Agricultural Worker Vanpools in the San Joaquin Valley: Currently, CARB has \$3 million for this project. No projects have been funded yet.
- Clean Vehicle Rebate Project: Currently, CVRP offers low- and moderate-income consumers higher rebates of \$4,500 to buy or lease a new battery electric vehicle and \$3,500 for a new plug-in hybrid vehicle.

Since 2014, these SB 1275 EV equity pilots have received a total of \$93 million through fiscal year 2016-17.²² So far, only about \$16 million is being implemented with the remaining \$77 million waiting to be awarded to new projects or waiting to be implemented by current administrators. As a result, there is an increased demand in EV charging infrastructure related to this demand in the next couple of years. Anecdotally, program administrators from the EV equity pilots have expressed access to EV charging at home as a significant barrier to their ability to sign up more participants to their EV access programs. Creating a coordinated and complementary program for these EV equity access programs can go a long way in maximize benefit and impact in low-income communities of color.

As a result, Greenlining strongly recommends that \$4M of PG&E's \$8.2M Open RFP project should be repurposed to develop an "Electric Vehicles for All" project to provide accessible EV

²¹ California Air Resources Board, [*Fiscal Year 2016-2017 Car Sharing and Mobility Options Pilot Project List of Applications Received and Project Executive Overviews*](#).

²² California Air Resources Board, [*Public Workshop on the Fiscal Year 2017-18 Funding Plan*](#).

charging solutions to enhance and maximize the impact of the SB 1275 EV equity pilots in low- and moderate-income communities.

The project design and implementation must comply and be guided by the following principles:

- Exclusively target and design for low- and moderate-income consumers, households, and communities in PG&E's service territory
- Ensure a high priority community mobility need is being served
- Increase *access* to light-, medium, or heavy-duty PEVs in low-income, and moderate-income communities and households (as described in SB 350)
- Increase *placement* of light-, medium, or heavy-duty PEVs in low-income, and moderate-income communities and households (as described in SB 350)
- Increase *use* of light-, medium, or heavy-duty PEVs in low-income, and moderate-income communities and households (as described in SB 350)
- Support implementation priorities from CARB's "Low-Income Barriers Study: Overcoming Barriers to Zero-Emission and Near Zero-Emission Transportation and Mobility Options," where feasible and appropriate ²³
- Collaborate with and complement other utility clean energy programs and other non-utility programs targeted at low-, moderate-income, and disadvantaged communities to create positive, transformational outcomes for low- and moderate-income households
- Collaborate with and complement transportation justice policies and programs targeted at low-, moderate-income, and disadvantaged communities to create positive, transformational outcomes for low- and moderate-income households
- To the maximum extent possible, maximize and prioritize low-income workers and workers from disadvantaged communities for job training and hiring required to complete the work required under this project
- To the maximum extent possible, maximize and prioritize procurement of goods and services from diverse-owned businesses (e.g. minority-, women-owned businesses) required to complete the work required under this project

²³ California Air Resources Board at <https://www.arb.ca.gov/msprog/transoptions/transoptions.htm>

Moreover, the design and implementation details should be developed in consultation with CARB, PG&E, municipalities, community-based groups, and EV equity and environmental justice stakeholders through a taskforce or working group setting. The community engagement, design, implementation, evaluation, and reporting will be guiding by the principles listed above (and potentially other principles or refined versions of principles listed here).

In closing, Greenlining reserves the right to provide a more detail and updated information to these recommended modifications in reply briefs.

b. San Diego Gas & Electric

No other issues.

c. Southern California Edison

No other issues.

V. Conclusion

Greenlining respectfully requests that the Commission consider the recommended modifications to ensure the priority review projects meet the SB 350 requirements to increase access, use, and placement of plug-in electric vehicles in disadvantaged, low-income, and moderate-income communities.

Dated: June 16, 2017

Respectfully submitted,

/s/ Joel Espino

Joel Espino

Legal Counsel, Environmental Equity

The Greenlining Institute

510-898-2065

joele@greenlining.org

ATTACHMENT A

**PROPOSAL FOR PRIORITY REVIEW PROJECT
FOR PACIFIC GAS & ELECTRIC:
ACCELERATE INVESTMENT IN ALL-ELECTRIC
TRANSIT BUSES WITH TARRIFFED ON-BILL
FINANCING FOR BATTERY & CHARGING
STATION**

Proposal for Priority Review Project for Pacific Gas & Electric:

Accelerate Investment in All-Electric Transit Buses with Tariffed On-Bill Financing for Battery & Charging Station

The Greenlining Institute
The Utility Reform Network
Union of Concerned Scientists
Clean Energy Works

June 16, 2017

Among all utilities in the U.S., PG&E's service area is the second largest market for electric buses. Transit agencies that manage the current fossil fueled fleets draw most of their financing for procurement from the Federal Transit Administration and then depend on grants, vouchers, and rebates to pay the cost of all-electric transit buses. Thus far, this has been sufficient for leading transit agencies to procure their first few all-electric transit buses, but it is not a scalable solution.

To demonstrate leadership by example in meeting the state's clean energy and clean air goals, public transit agencies must rapidly scale up procurement for Zero Emission Vehicle (ZEV) buses, yet they face an upfront cost barrier for on-board batteries and charging stations, which persist even after all-electric buses reach cost parity on a lifecycle basis. This proposal describes a pilot program that PG&E can undertake immediately with the benefit of ratepayer funds authorized through the proceeding ordered by state law Senate Bill 350 (SB350) to accelerate electrification in the transportation sector.

In the California Energy Commission's (CEC) work to implement the same law, it completed a landmark SB 350 Barriers Study, examining barriers to energy efficiency and renewable energy in low-income communities. Among its recommendations, the CEC recommended that the California Public Utilities Commission (CPUC) consider demonstration projects for tariffed on-bill programs that benefit low-income communities. Transit agencies across the state serve youth and elders, riders without documentation to obtain drivers licenses, low-income residents without access to private vehicles, and riders whose physical mobility is limited. If ratepayers will be asked to pay for the Priority Review Projects, these are among the first who should benefit.

The Federal Transit Administration provides financing for buses procured by most transit agencies every year, and rules that apply to those agencies make it very difficult to retire dirty buses sooner than their expected useful life of 12 years. That means that every year we wait, there is another round of transit buses that will be polluting the air of transit-dependent communities beyond 2030. *We can't wait.* We call on the CPUC to accept the CEC's recommendation through this

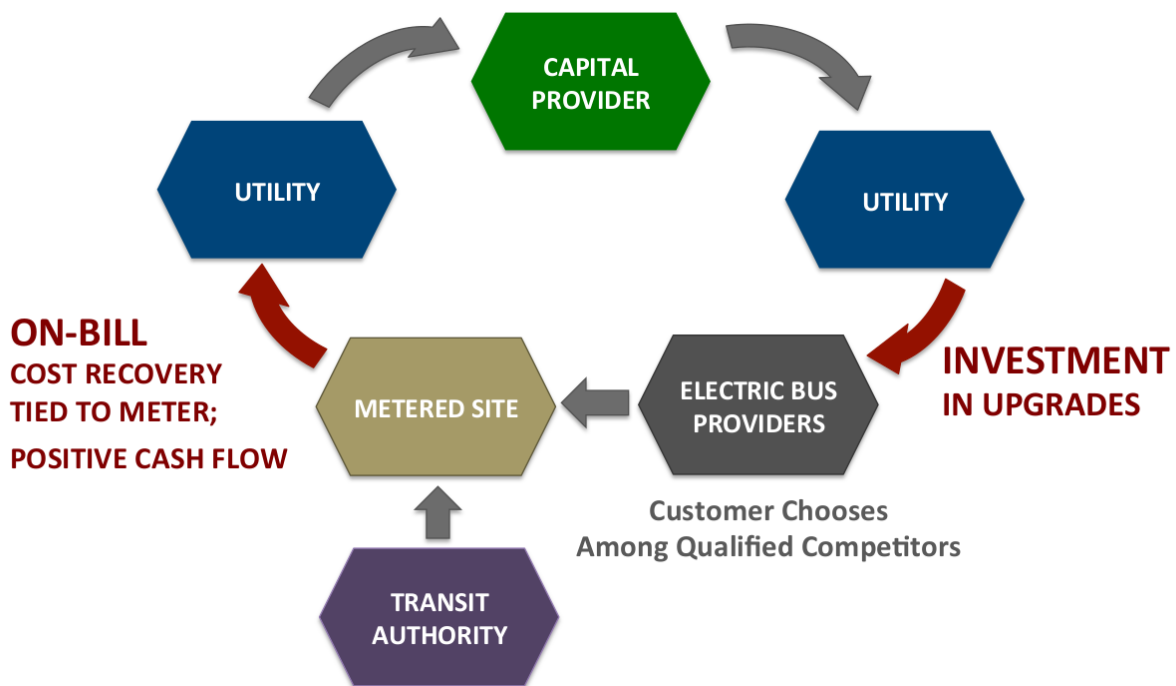
SB350 proceeding on electrification of the transportation sector, putting frontline communities in our cities literally at the front of the line for investment - starting with clean transit.

Proposal: Tariffed On-Bill Financing for Clean Transit with All-Electric Buses

a) Description

With CPUC approval, PG&E can offer an opt-in tariff that enables investment and cost recovery for the on-board battery and charging equipment included with all-electric buses procured by public transit agencies in its service territory. This would remove the upfront cost barrier that remains for transit agencies even where zero-emission electric buses have reached cost parity with incumbent technologies, as measured on a lifecycle cost basis for comparable routes. In order to recover its costs, the utility would include on transit agency's monthly bill a fixed charge capped at a level 10% below the estimated savings relative to the cost of operating a traditional diesel bus.

Figure 1. Transaction Path for a Tariffed On-Bill Program for All-Electric Buses ¹



Ratepayers could provide capital directly to the utility for this Priority Review Project, or an entity such as the California Clean Energy Fund (CalCEF) could receive the funds and leverage it to draw 10 times (or more) the scale of low cost private capital into the investment program. The transit agencies would retain the option to choose the bus manufacturers that meet their procurement

¹ Utility commissions in Kansas, Kentucky, and Arkansas have previously approved similar tariffed on-bill programs for building energy efficiency upgrades. This Priority Review Project would demonstrate the first application to electrification in the transportation sector.

specifications, and provided that the equipment came with an appropriate warranty, the utility would be able to offer tariffed terms for the premium cost of the on-board battery and charging station.

With \$4 million of ratepayer resources, the utility can finance the upfront premium of approximately one dozen electric buses in a one year Priority Review Project, with funds remaining for project management, data collection, and evaluation. In the example below, the tariffed charge is capped at 90% of the estimated savings from switching from a diesel to an all-electric bus that is charged overnight in a depot. Therefore, the tariffed charge on the bill is less than the estimated savings. The utility will *recover* the ratepayer funds deployed over the useful life of the equipment, which is warrantied by the manufacturer to span 12 years with a battery replacement after 6 years.

Table 1. Example Tariffed On-Bill Investment for a Priority Review Project on Depot-Charged All-Electric Transit Buses

| Procurement year | 2018 |
|---------------------------------|-------------|
| Battery electric buses procured | 12 |
| Up front cost premium per bus | \$286,000 |
| Total up front cost premium | \$3,427,000 |
| Estimated annual savings | \$415,000 |
| Tariffed charge | \$377,000 |
| Cost recovery period | 12 |

Note: The example above does not depend on the availability of vouchers. If available, they would be worth approximately \$95,000 per bus, bringing the cost recovery period closer to 7 years for transit agencies that were able to secure HVIP funds.

Alternatively, the scale of this project can be more than 10 times larger if the ratepayer funds are used instead to lower costs for private capital by establishing a reserve fund for charge-offs or by paying for a loan guarantee for the capital provider. The California Clean Energy Fund (CalCEF) or other entities with a similar mission could support the establishment of such a reserve fund on behalf of ratepayers in order to draw a much larger sum of private capital into the market through a tariffed on-bill program. However, the arrangements for private capital may take longer to complete, delaying the marketplace results of the Priority Review Project that the CPUC may wish to see within one year.

b) Gaps and Customer needs

Transit agencies face budget constraints that will slow the rate of electrification even if the utilities spend ratepayer funds to improve the capacity for service delivery to charging depot areas. Currently, transit agencies compete for a limited number of discretionary grants available from the state or federal government in order to expand their procurement capacity for all-electric transit buses. Without that assistance, the agencies are often faced with a choice of whether to maintain current levels of service by procuring fossil fueled buses at a lower upfront cost or to expand their fleet of zero emission all-electric buses but buy fewer buses overall.

Looking at the full-scale potential in PG&E's service area

Today, just \$55 million is available annually nationwide for the Low or No Emissions program (LoNo) offered by the U.S. Department of Transportation's Federal Transit Administration. In 2015, there were approximately 1,300 buses in PG&E's service territory according to the National Transit Database. Assuming a lifetime of 12 years, the minimum stipulated by the Federal Transit Administration (FTA), this means transit agencies in PG&E's territory will procure approximately 110 buses per year. If this project were run at full-scale for the market in 2019, it would deploy approximately \$30 million to cover the incremental cost over a diesel bus, assuming a \$258,000 cost premium in 2019.

c) Objective

The objective of this project is to pilot an opt-in tariff to finance the battery of an electric transit bus, in order to test the potential for such an approach to mitigate the up-front cost barrier, accelerate deployment, and better leverage public/ratepayer funds.

This Priority Review Project would test the potential for accelerating electrification in the transportation sector without exponentially increasing public subsidies that would otherwise be required for transit agencies to afford battery electric buses while maintaining the service levels their communities require.

This pilot will also add to the fleet data available to evaluate the operating costs electric buses in the field to determine how they compare with anticipated savings, in order to determine the potential for expanding such a tariff more widely.

d) Scope and cost

1. Customer eligibility

The program is open on a first-come, first-served basis to customers that meet the following qualifications:

- Qualify as a government transit agency,
- Be located in the PG&E service territory,
- Own or lease the participating site, or be the customer of record associated with the premises meter (likely the property management company or the building owner or tenant), where the charging equipment for the buses would be deployed,
- Acquire at least one new electric or plug-in hybrid bus used to provide transit service to the public,
- Commit to and provide acceptable proof of qualified charging equipment and vehicle purchase (together with actual pricing information) prior to commitment by PG&E,
- Agree to the opt-in fixed tariff to recover the cost of the battery and charger portion of the electric bus investment,
- Agree to take service on an eligible TOU rate, and
- Agree to participate in the pilot for its entire duration, including maintaining the charging equipment in working order and participating in surveys and data collection.

2. Customer engagement and enrollment

PG&E can target transit agencies operating in their service territories and solicit them for participation in the program through their respective Business Customer Divisions.

3. Management and execution

[TBD in further consultation with PG&E, transit agencies in the service area, and potentially CalCEF in order to maximize the impact of of ratepayer funds by leveraging more private capital for clean transit.]

4. Data collection and reporting

PG&E could partner with its transit agency customers and experts such as the Institute for Transportation Studies at the University of California-Davis to evaluate and report on the program. This could include reporting on the scale and terms of procurement and, later, the actual operating costs of the electric buses funded compared with selected baseline fossil fuel buses in the agency's fleet, including maintenance costs, electricity costs, and fuel economy. PG&E will issue a report at the end of the first year of the program summarizing the investments, and subsequently, it will disclose annually the cost recovery performance for the program.

The pilot should seek to understand the barriers to electrification for public transit buses more fully, and report to what extent the on-bill financing program alleviates

these barriers. In addition, the program should be evaluated after the one year pilot period to fully understand ratepayer costs and implementation issues before it is scaled to additional transit agencies

5. Costs

The project budget would total \$4 million, with 10% reserved for evaluation and reporting.

Option 1. With \$3.6M of ratepayer resources, each utility could finance the upfront premium of approximately one dozen electric buses, recovering that ratepayer money over the useful life of the equipment, warrantied to span 12 years with a battery replacement after 6 years.

Option 2. With \$3.6M of ratepayer funds, CalCEF could draw more than 10 times that much private sector capital into the program by using the ratepayer funds to reduce risk, and therefore reduce the cost of capital, rather than provide the capital directly.

e) Duration

Option 1. 12 months to initiate the procurement of a dozen buses.

Option 2. The program will remain open all private sector financing, secured for the program by leveraging the ratepayer funds, is deployed. The first transactions would take place in Year 1, and could continue for multiple years as more transit agencies take advantage of the opportunity to accelerate procurement of clean transit buses.

f) Benefits

The air quality and climate benefits of electric buses compared with diesel and other fossil fuel buses are substantial: a recent analysis by the Union of Concerned Scientists found battery electric buses on today's grid in California have 70% lower lifetime greenhouse gas emissions per bus than diesel or CNG buses, approximately 50% less NOx emissions and 10% less particulate emissions. As the grid becomes cleaner according to state law, the benefits of electric buses will increase further.

Helping transit agencies procure more ZEVs faster is in the public interest, but there are real limits to an approach that depends on taxpayer or ratepayer subsidies. Therefore, this Priority Review Project will demonstrate the potential for a self-sustaining program for longer-range all-electric buses that are cost effective on a lifecycle cost basis.

This program would enable transit agencies to procure the quantity of electric buses they need without a cost premium above what a fossil fuel bus would cost. The program will immediately

increase the pace of procurement of electric transit buses while relaxing reliance on direct subsidies. If successful, the source of capital can shift from ratepayer funds to the utility's investment capital, a third party financial partner, or to competitive capital markets that typically yield low cost capital when utilities are the counterparty. The ultimate result is faster widespread electrification of transit agencies' fleets throughout more utility service areas.

PG&E has experience working with BMW to monetize the value of grid connected on-board batteries, and there is ample opportunity for similar benefit streams to be developed in connection with the procurement of longer range all-electric buses that charge overnight in bus depots. This project proposal specifically envisions procurement of longer-range buses with in-depot charging overnight, which also helps manage fuel costs that are affected by demand charges at en-route charging stations during the day. In addition, when a participating transit agency has exhausted its use of an on-board battery, the utility may opt to buy battery packs for second life applications for stationary storage.

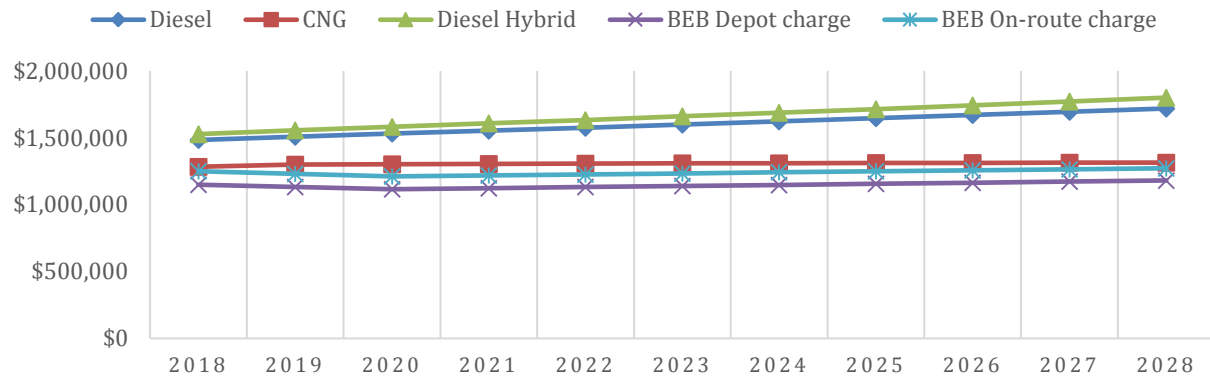
Conclusion:

The cost of all-electric buses will continue to decline along with the cost of batteries and charging stations. Nevertheless, transit agencies will continue to face an upfront cost premium even after all-electric buses reach cost parity on a lifecycle cost basis. The CPUC can authorize a tariffed on-bill program that allows a utility to finance site-specific upgrades on the customer's side of the meter in a way that assures cost recovery for the utility and a path to ownership for the customer. For transit agencies, these upgrades would include the on-board storage and charging station, which account for the premium cost of an all-electric bus.

The first step toward implementation is a financial analysis for prospective transit agencies that would want to accelerate electrification of their transit fleet. As shown in the figure below, the most cost-effective option is a longer-range battery electric bus (BEB) that charges overnight in a bus depot. Conducting financial analysis is an important step prior to opting into the tariffed terms for financing the procurement of all-electric buses, and this type of analysis can be tailored to the specific conditions of any transit agency.

We respectfully propose that the CPUC specifically designate the allocation of ratepayers funds to this demonstration of tariffed on-bill financing in order to accelerate electrification in public bus transit fleets. We believe that the request from PG&E to receive a blank check to conduct a Request For Proposals with unknown requirements and selection criteria and beneficiaries is one that can be declined on behalf of ratepayers in favor of a proposal that allows the state to demonstrate an innovation in financing for distribute energy solutions that could be instrumental in achieving more of the state's clean energy goals while ensuring that disadvantaged communities are at the front of the bus – a clean transit bus.

Projected Total Cost of Ownership, 2018-2028 for Bus Technology in PG&E Service Area



Source: Analysis prepared by Kelly Blynn, Candidate for M.S. in Transportation, MIT 2017.

ATTACHMENT B

ACCELERATING INVESTMENT IN ELECTRIC TRANSIT BUSES: HARNESSING A UTILITY TARIFF TO DRIVE OUT DIESEL

Accelerating Investment in Electric Transit Buses: Harnessing a Utility Tariff to Drive out Diesel

Transit agencies around the world are looking for ways to buy zero-emission electric buses to replace diesel buses - and eliminate their air and noise pollution. Electric bus manufacturers have recently reached cost parity with diesel buses in key markets when evaluated on a lifecycle basis, yet the upfront cost premium can be above 50%, creating a barrier for procurement. Because many transit agencies are operating in financially constrained conditions, a financing solution is required to accelerate retirement of the dirtiest diesel buses in favor of zero-emission transit.

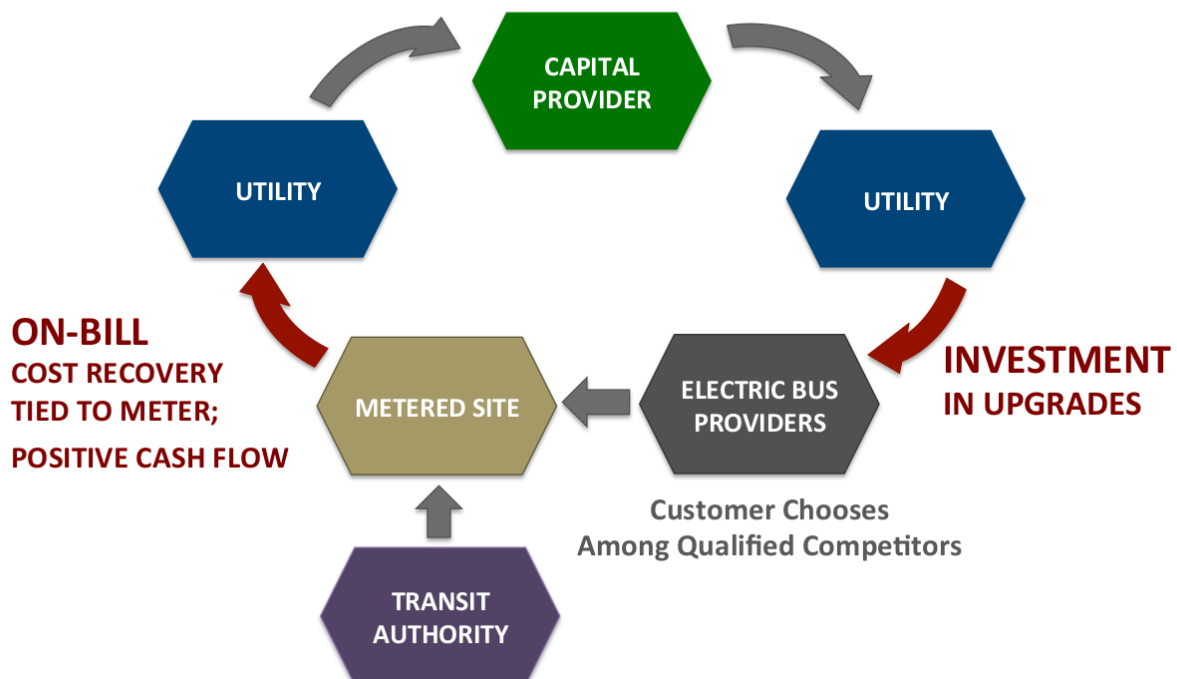
Harnessing a utility's business model can accelerate investment

Utilities have sold electricity for nearly a century under a terms of service agreement called a tariff, and in the last decade, innovations in the field of energy efficiency for buildings have yielded an opt-in tariff for upgrades like better lighting or heat pumps. These utility *tariffed on-bill programs* accelerate investment in cost effective upgrades by resolving the upfront cost for customers and providing net benefits from the start.

When applied to the transportation sector, these tariffed on-bill programs can break through the upfront cost barrier for batteries and charging stations by allowing a utility to finance the equipment that drives the premium cost of electric buses.

PAY AS YOU SAVE[®] (PAYS[®])

PAYS offers all utility customers the option to access cost effective energy upgrades using a proven investment and cost recovery model that benefits both the customer and utility.



Here's how it works:

First, the utility establishes a terms of service agreement (a tariff) for investing in the battery and charging station for each new electric bus sought by a transit agency in its service area.

Second, the transit authority opts into a terms-of-service agreement (a tariff) that allows the utility to put a charge on the agency's monthly bill that is capped at a level below the estimated savings (lower than the cost of fuel for a diesel bus) and to recover its costs within the warranty period of the equipment it has financed. If the equipment has been maintained as per warranty conditions, the utility can call on the warranty to address upgrades that need repair or remedy.

As a result, the transit authority's upfront cost to buy an electric bus to replace a diesel bus would be comparable to new diesel bus - and the community would gain all the benefits of a zero emissions electric bus instead. For the transit agencies that opt in, the utility pays for energy saving upgrades to the bus fleet, and the transit authority pays nothing upfront for the premium cost of the zero-emission electric bus. The utility gains approximately \$100,000 in new sales over the life of each electric bus that displaces a diesel bus.

Bus riders and communities served by both the utility and the transit agency are then spared the hazards of air pollution and the nuisance of noise pollution produced by diesel buses.

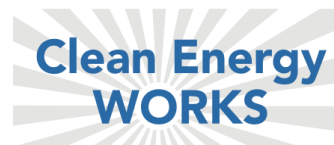
The transit authority has no loan, no lien, and no debt associated with this transaction; just lower costs of operation and a better bus fleet. When the utility recovers its costs, the monthly charges end, and when the transit agency has exhausted a battery used for on-board storage, the utility may opt to buy battery packs for second life applications for stationary storage.

Where is tarified on-bill financing already available?

Utility regulators in Kansas, Kentucky, Arkansas and more have already approved opt-in tariffs for building efficiency upgrades. Although only a few leading utilities in each of those states are taking advantage of the opportunity thus far, all of them are using the same system for their program design, called Pay As You Save® (PAYS®). PAYS offers all customers the option to access cost effective energy upgrades using a proven investment and cost recovery model that benefits both the transit authority and utility. Although the PAYS system has not yet been applied to transit buses, recent cost reductions achieved by manufacturers have now put that breakthrough within reach in multiple states.

For more information:

Info@CleanEnergyWorks.org



ATTACHMENT C

SAN JOAQUIN REGIONAL TRANSIT DISTRICT LETTER OF SUPPORT FOR TARIFFED ON-BILL FINANCING PROJECT



June 16, 2017

Commissioner Carla J. Peterman
505 Van Ness Avenue
San Francisco, CA 94102

RE: Letter of Support for CPUC Priority Review Project – Transit Electrification

The San Joaquin Regional Transit District (RTD) is committed to electrification of transit buses, and we are proud that approximately 15% of the buses in our fleet serving the City of Stockton will be all-electric by June 2018. Thus far, grants funded by federal, state, and local sources have funded the premium upfront cost of those 17 ZEV buses, and we will continue to seek grant funds for an all-electric Bus Rapid Transit system to reach underserved communities in South Stockton and beyond.

We are aware, however, that grant funding is not a predictable long-term strategy for achieving our city's goals for clean air, a healthy environment, and excellent transit service, and that is why I am writing to express support for a proposal to the CPUC that would authorize a Priority Review Project under SB350 to introduce an optional tariffed on-bill program for transit agencies seeking to expand their fleet of all-electric buses.

A tariffed on-bill program offered by PG&E would allow RTD and other transit agencies to procure all-electric buses without facing a high upfront cost premium that will persist even when the buses reach cost parity on a lifecycle cost basis. Under the terms of the proposed Priority Review Project advanced by Greenlining Institute and other stakeholders, PG&E would be able to recover its costs with a charge on our bill that is less than our estimated savings – yielding additional cash flow for operations that are important for improving our service.

We understand the state policy objectives in SB350 have multiple benefits, and we are proud that our fleet provides environmental benefits to people in disadvantaged communities within Stockton and the surrounding areas we serve. Thank you for your leadership on accelerating electrification in California's transportation sector, and we appreciate your consideration of our interests as leaders in the field.

CHIEF EXECUTIVE OFFICER: Donna DeMartino

BOARD OF DIRECTORS: CHAIR Michael Restuccia • VICE CHAIR Les J. Fong • Joni Bauer • Gary S. Giovanetti • Balwinder T. Singh

SAN JOAQUIN REGIONAL TRANSIT DISTRICT

P.O. Box 201010 • Stockton, CA 95201 • (209) 943-1111 • (209) 948-8516 Fax • sanjoaquinRTD.com

Sincerely,

A handwritten signature in blue ink that reads "Donna DeMartino". The signature is fluid and cursive, with the first name "Donna" and last name "DeMartino" clearly legible.

Donna DeMartino
CEO